5

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,253	04/08/2004	Stuart Anthony Smithson	5681-92600	7526

35690 7590 04/23/2007

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C.
P.O. BOX 398
AUSTIN, TX 78767-0398

EXAMINER	
SURYAWANSHI, SURESH	
ART UNIT	**PAPER NUMBER**
2115	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/820,253	SMITHSON ET AL.	
	Examiner	Art Unit	
	Suresh K. Suryawanshi	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-12,14-19 and 21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-12, 14-19 and 21-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 3-12, 14-19 and 21-24 are presented for examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4-8, 10-12, 15-16, 18-19 and 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Rhee et al (US Patent 6,804,790[1]; hereinafter Rhee).

4. As per claim 1, Rhee discloses a method for operating a computer system comprising a first and a second computing unit [Fig. 1; processing unit 1 and processing unit 2], the method comprising selecting a first clock frequency for operation of said first computing unit, wherein said first frequency is a function of a first predetermined number allocated to said first computing unit [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn; clearly f1 is different than f2, f3, f4, and etc.; though Rhee does not expressly disclose a

function, it is inherent in such a system to provide a different frequency to have some sort of function to calculate a different frequency than others], and selecting a second clock frequency for operation of said second computing unit, wherein said first and said second frequencies differ one from the other by at least a predetermined bandwidth [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn].

5. As per claim 12, Rhee discloses a method for operating a computer system comprising a plurality of computing units [Fig. 1; processing unit 1, processing unit 2, processing unit 3, and etc.], the method comprising, selecting a plurality of different clock frequencies [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn]; allocating a different one of each of said plurality of clock frequencies to each of said plurality of computing units, wherein said allocating includes allocating a predetermined number to each computing unit and setting each unit clock frequency as a function of said number[Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn; clearly f1 is different than f2, f3, f4, and etc.; though Rhee does not expressly disclose a function, it is inherent in such a system to provide a different frequency to have some sort of function to calculate a different frequency than others], wherein each of said plurality of frequencies differs from at least one other of said

[1] Prior art cited by the examiner in the prior office action.

frequencies by a predetermined bandwidth [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn].

6. As per claim 19, Rhee discloses apparatus for start-up of a computer system comprising a plurality of computing units [Fig. 1; processing unit 1, processing unit 2, and etc.], the apparatus comprising means for setting a different clock frequency for each unit so that said units each operate at a different frequency, each frequency differing from another frequency by at least a predetermined minimum bandwidth [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn], and means for determining said predetermined minimum bandwidth as a multiple of a predetermined base frequency [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz; col. 3, lines 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn; clearly f1 is different than f2, f3, f4, and etc.; though Rhee does not expressly disclose a function, it is inherent in such a system to provide a different frequency to have some sort of function to calculate a different frequency than others].

7. As per claim 4, Rhee discloses that the predetermined minimum bandwidth is the bandwidth of a standard emission measuring device [col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4 MHz].

8. As per claim 5, Rhee discloses that the predetermined minimum bandwidth is at least 120 KHz [col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz].

9. As per claim 6, Rhee discloses that the predetermined minimum bandwidth is at least 1 MHz [col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz].

10. As per claim 7, Rhee discloses that said first unit clock frequency differs from said second unit clock frequency [col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz].

11. As per claims 8 and 16, Rhee discloses that said number comprises an integer between 1 and a number equal to the number of computing units in the system [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn].

12. As per claim 10, Rhee discloses implementing the method as part of the start-up code for each computing unit [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; inherent to the system to setup the clock frequency of each processing unit at the start-up].

13. As per claim 11, Rhee discloses that said first and said second clock frequency is dynamically allocated to respective computing unit on start-up or resetting of the system [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; inherent to the system].

14. As per claim 15, Rhee discloses that each unit clock frequency differs from at least one other by a multiple of the predetermined minimum bandwidth [col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz].

15. As per claim 18, Rhee discloses that each different frequency is dynamically allocated to a respective computing unit on start-up or resetting of the system [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; inherent to the system to setup the clock frequency of each processing unit at the start-up].

16. As per claims 21, Rhee discloses allocating a predetermined number to each of said first and said second computing units and setting said first and said second unit clock frequency as a function of said number [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz; col. 3, lines 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn].

17. As per claim 22, Rhee discloses that said number is used as a multiple of the predetermined base frequency [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31; the first processing unit operates at a clock frequency of 32 KHz and the second processing unit operates at a clock frequency of 4MHz; col. 3, lines 51-62; col. 4, lines 30-32; col. 6, lines 3-7; each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn].

18. As per claims 24, Rhee discloses that said first and said second clock frequency is dynamically allocated to respective computing unit on start-up or resetting of the system [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7; inherent to the system].

19. Claims 3, 9, 14, 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhee et al (US Patent 6,804,790; hereinafter Rhee).

20. As per claims 3 and 14, Rhee discloses the invention substantially. Rhee does not expressly disclose a random number generator. However, a routineer in the art would know about a random generator as it is well known to generate random numbers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a random number generator to use in the function to calculate different frequencies.

21. As per claims 9 and 17, Rhee discloses the invention substantially. Rhee does not disclose that the number can be determined as a function of a digit of the address of the respective computing unit. However, a routineer in the art would be able to do so as this will clearly provide a different number for each unit because each unit will have a different address. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention to utilize a function of a digit of the address of the respective processing unit to determine the number.

22. As per claim 23, Rhee discloses the invention substantially. Rhee does not disclose that the number can be determined as a function of a digit of the address of the respective computing unit. However, a routineer in the art would be able to do so as this will clearly provide a different number for each unit because each unit will have a different address. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

modify the invention to utilize a function of a digit of the address of the respective processing unit to determine the number.

Response to Arguments

23. Applicant's arguments filed on 4/2/07 have been fully considered but they are not persuasive.

24. In the remarks, applicant argued in substance that (1) Rhee does not teach or suggest of any "means for determining said predetermined minimum bandwidth as a multiple of a predetermined base frequency".

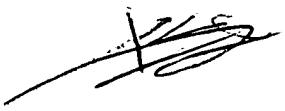
25. As to point (1), Rhee clearly discloses that each processing unit operates at a different clock frequency with f1<f2<f3<f4<. . . fn [Fig. 1; col. 2, lines 17-21, 48-49; col. 3, lines 28-31, 51-62; col. 4, lines 30-32; col. 6, lines 3-7]. Clearly f1 is different than f2, f3, f4, and etc. Though Rhee does not expressly disclose a function or means, it is inherent in such a system for providing different frequencies for more than one processing units to have some sort of a function or means to calculate a different frequency for each different processing unit. Rhee can just not assign any frequency to any processor randomly as Rhee provides a coordinating protocol for a multi-processing system in a manner such that the power efficiency of the system is optimized.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suresh K. Suryawanshi whose telephone number is 571-272-3668. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Suresh K Suryawanshi